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REMARKS
ON
HORSES' TEETH

MILES.

189.

the 1990s, the number of people in the UK who are employed in the public sector has increased by 1.5 million, from 2.5 million in 1980 to 4 million in 1998. The public sector has become a major employer in the UK, and its growth has been a key factor in the overall growth of the economy.

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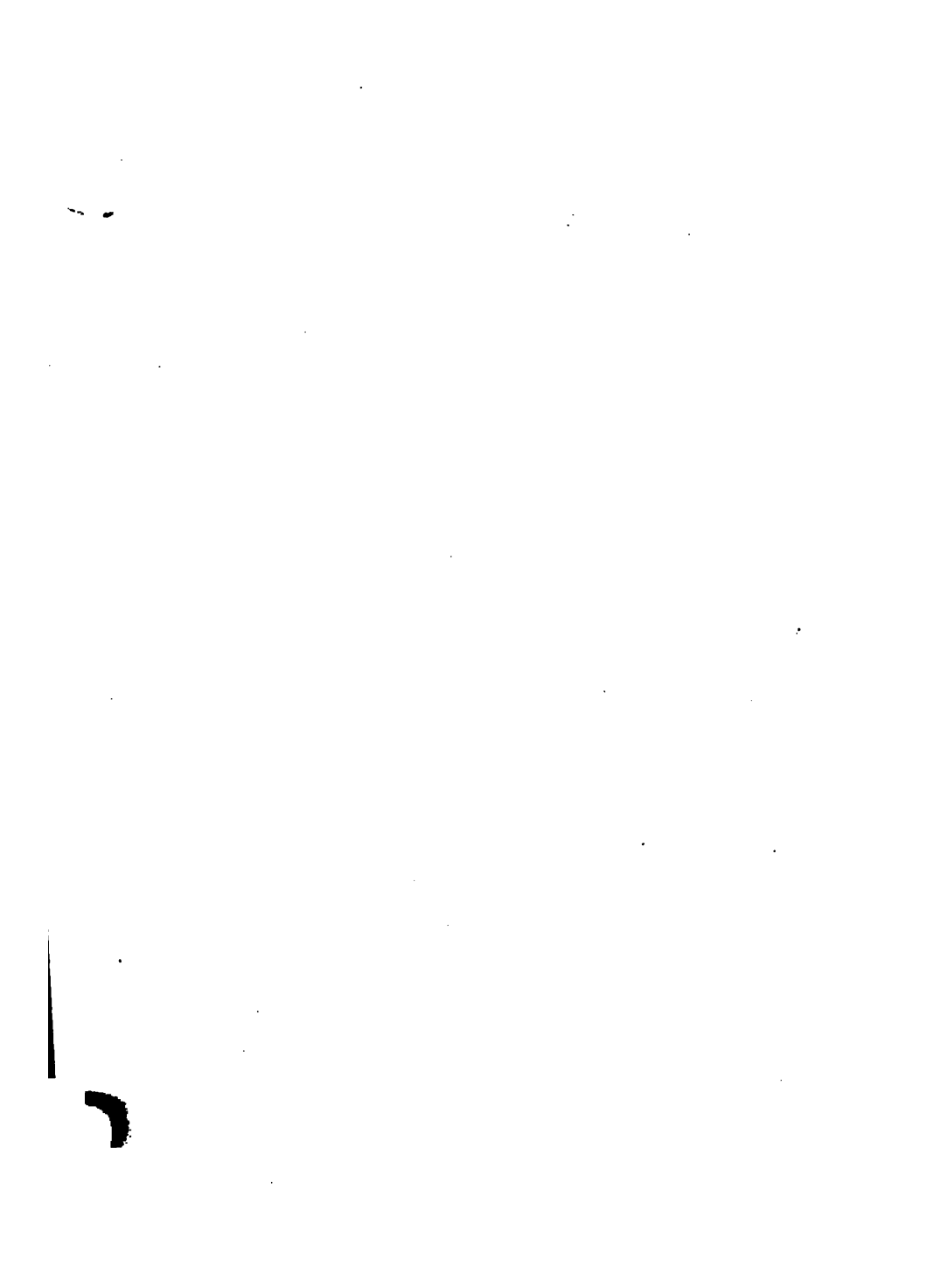
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REMARKS
ON
HORSES' TEETH,

ADDRESSED TO
PURCHASERS,

BY
WILLIAM MILES, ESQ.,
AUTHOR OF "THE HORSE'S FOOT AND HOW TO KEEP IT SOUND,"
"A PLAIN TREATISE ON HORSE SHOEING,"
"STABLES AND STABLE FITTINGS, &C."

LONDON:
LONGMAN, GREEN, LONGMAN, AND ROBERTS,
PATERNOSTER ROW.
1864.

189. f. 1.



WILLIAM POLLARD, PRINTER, NORTH STREET, LIVERPOOL.

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INTRODUCTION.

The following dissertation on the horse's teeth aspires to nothing higher, than placing before the reader in plain language just that amount of information, which every horseman should possess, to enable him to estimate the probable age of a horse by a careful examination of its mouth. I have purposely avoided encumbering the subject with any anatomical or physiological remarks on the composition or functions of the teeth, believing that I shall best carry out my object by confining my observations to those parts only, that immediately concern a purchaser, who may wish to know something more about the age of a horse, than the seller may find it convenient to tell him.

Those, who are disposed to go deeper into the subject, and to obtain more ample information, than is supplied by these pages, will find their utmost requirements fully satisfied by consulting Mr. Mayhew's elaborate and instructive treatise on "The Horse's Mouth, &c.," with its clear descriptions, and life-like, colored illustrations, which have stood the test of oft-repeated comparison with the mouths of the various breeds of horses, that are usually met with in this country, ranging from the race horse to the brewer's dray horse.

Before I proceed to describe the growth and changes of the teeth in detail, or the appearances whereby the age of the horse is to be estimated, I think it may not be altogether out of place, if I introduce some general remarks touching the tampering, the teeth are exposed to, and the still more grave and important matter of the early period, at which colts are brought into the market for sale, and considered eligible for work.

ON TAMPERING WITH THE TEETH.

Numerous tricks are practised on horses' teeth with the view of making the *young* to appear *older*, and the *old* to appear *younger*, than they really are; but these devices utterly fail to impose on persons, who have taken the trouble to inform themselves thoroughly on the subject; there is no doubt however, but they do impose on that numerous class of the community, who, without knowledge to guide them, persist in judging for themselves, and usually pay the penalty, which attaches to their temerity by being "taken in." The knowledge, which is necessary to qualify a person to enter the horse market with safety, does not come by instinct, it is either the result of careful study, or of extensive experience, and he, who ventures on his mission unprotected by one or both of these qualifications, will find himself moving among shoals and quicksands.

A very general notion prevails, that Yorkshire is the parent and hot-bed of these nefarious practices, and it must be confessed, that Yorkshire has a great deal to answer for, still it does not stand alone in the exercise of malpractices, for there are few counties, or I may say countries, that can claim exemption from the charge of tampering with horses' teeth. The custom is so old, and so universal, that I imagine it would be almost impossible to trace its origin. I find Le Sieur de Solleysell, who wrote in Paris in 1664, complaining bitterly of the Germans for performing precisely the same operations on horses' teeth, which we of the nineteenth century inveigh against; he accuses them of "bishoping," or as he calls it, "counter-marking" the teeth of the old horses, and drawing the milk teeth of the young ones; in fact he records numerous artifices as being common in his day, which many persons suppose to be modern inventions.

I should have had very little to say against the

absurd practice of forcibly removing the milk teeth, before nature is prepared to part with them, if it were not for the unpardonable cruelty perpetrated on an unoffending animal, for the sole purpose of enabling the cupidity of one man, to impose on the credulity of another, and thereby induce him to pay the price of a five year-old horse for a four year-old colt.

The notion, that the extraction of a milk tooth always hurries the growth of the permanent tooth beneath, is a mistake ; it often retards it, but very rarely indeed accelerates it. Nature is very systematic in all her operations, and especially prone to resent any violent interference with her plans ; it is quite true, that she does sometimes indulge in exceptions to her own rules, but the instances, in which she does so, are few and far between, and the very fact of their being looked on as exceptions confirms the rule, by calling attention to the departure from her usual plans ; there are few

parts of the animal however, that are less subject to deviation, than the systematic and regular production, and growth of the teeth.

The permanent tooth, destined to replace the milk tooth, is perfected within the substance of the jaw, and by a slow process of growth is made to press upon the fang of the milk tooth above, and thereby cause its gradual absorption ; but, if this quiet process is rudely disturbed by the forcible extraction of the milk tooth several months earlier, than the appointed time for its being shed, we cannot be surprised, if nature should resent such a gratuitous interference with her plans by delaying the appearance of the permanent tooth for an indefinite period. A case in point occurred to me three years ago ; I was requested to examine the mouth of a horse, said to be five years old, and I found him to be, what is called a Yorkshire five, that is, he was barely four ; but the upper corner nipper on the near side had been removed,

and I said at the time, that one of three things had happened, either the tooth had been extracted with difficulty, or it had been broken, or the horse had resisted so much, as to make it prudent to leave the three other corner nippers alone, and that I believed the operation would be found in the end to have retarded the appearance of the permanent tooth. I had the opportunity of examining this horse's mouth rather more than a year afterwards, and I found the off side, which had been left to nature, showing an honest five year-old mouth, but the near side, which had been tampered with, showed barely four and a half.

I shall probably be asked, how it happens, that so many four year-old colts are brought into the various horse fairs with the corner nippers removed, if the operation is powerless to accelerate the appearance of the permanent teeth ; my answer is, that many persons do it, honestly believing the tradition which asserts, that it does expedite their

appearance in the mouth, but a much larger number are actuated by the prospect of obtaining a better price for the colt, and care nothing whatever about the effect, of what they have done, beyond the fact, that it has served their turn; the result they consider to be purely a purchaser's question, knowing full well, that not one horse in fifty ever has its teeth inspected, after it is once installed in its new stable.

The only circumstances, under which it is desirable, or even justifiable to remove the milk teeth, are first when they have become so loose as to cause pain in feeding, and next when one is retained in the mouth for any considerable time, after the three corresponding teeth have been shed.

THE TEETH THE MOST TRUSTWORTHY EVIDENCE OF AGE.

The order in which the teeth appear in the mouth, and the period at which they are changed,

are for the most part very regular, subject however to slight variations consequent on difference of constitution in individual animals; but they may nevertheless be accepted, as the most trustworthy evidence we can obtain of the actual age of a colt; for even the breeder of the animal, without meaning to deceive, may from defective memory consider it to be a year older, than it really is. I once saw a remarkable instance of this, in which the memories of no less than three persons failed them as to the age of a colt, bred by a friend of my own, which he intended to keep for his own riding, and therefore determined not to have it "broke," until it was five years old. I looked into its mouth, and told him that his colt was not quite *four*, which somewhat astonished him, and he referred at once to his coachman, who assured me, that I was quite wrong, and to prove it, called the man, who had had the care of it ever since it was born, who at once confirmed the coachman ;

I said, Never mind, I'll back the colt's mouth against all your memories, to which my friend replied, I shall be able to clear the matter up, when we return to the house, for I always record the birth of the foals on the day they are born; and when the book was produced, it showed the colt to be a few weeks short of four years old; but I take it in a court of justice, if it had not been for the book, the memory of either of these three persons would have been deemed conclusive as against the colt's mouth, seeing that there was no conceivable motive for deceiving.

ON COMPUTING THE AGE OF A COLT.

Before I proceed further, it may be as well to state, that my calculation of periods is based on the old fashioned principle of considering the year to consist of 12 calendar months, and the age of the horse to depend on the number of such years,

that have passed since its birth ; dating from one birth-day to the next, and not, as is the custom among horsemen, to assume that every “thorough bred” is one year old on the first of January next following its birth, and that every “half bred” is one year old on the first of May without reference to the particular month of the preceding year, in which either of them may happen to have been born. I confess that I have never been able to discover the advantage of this mode of computing time, which must inevitably cut off some weeks, or it may be months from the so-called first year of the colt’s existence, and most probably induce the owner under a false impression of its actual age to put the poor beast to work that much earlier, than he would otherwise have done. I may perhaps be asked, what possible difference a few weeks or even months can make in the colt’s fitness for work. If I were asked the same question in reference to a horse, seven or eight years old, I should answer, “none whatever” ;

but to the poor baby animal of "three" or "four," engaged in the painful and debilitating process of teething, with its inflamed gums, fevered body, and sore mouth causing a difficulty in feeding, a few weeks or months of further freedom from the distress occasioned by the bit, and the exhaustion produced by forced labor, are of inconceivable importance, both as regards the suffering, and the capability of the animal.

The extraordinary demands, that are made on the constitution of the colt between the commencement of the third year and the completion of the fourth in cutting no less than 24 permanent teeth besides the enlarging and strengthening of the bony frame and increasing the bulk of the muscles, are so great, as to point emphatically to this period as peculiarly unsuited for the change from the soft, cooling, and succulent food of the field, to the harsh, dry, and hard provender of the stable; and yet by a sort of perverse fatality this is the period,

at which the larger number of colts are housed, and prepared for the market.

I imagine, that a great deal of this cruel haste may be traced to the unwise anxiety, which endeavours to obtain as much work out of the poor young things, as may be possible, before that *bug-bear-period* arrives, which declares them to be *aged*; but which in its true and legitimate signification simply means, that they have arrived at maturity, and are now fitted for the performance of any amount of fair work, that may be required of them. He, who attempts to exact the work of a horse from the thews and sinews of a colt, is like the man in the fable, who killed his goose to obtain the golden eggs; for he cuts off the source of those valuable, efficient, and long continued services, which were in store for him, by his impatient desire to grasp them, before the proper time had arrived.

I imagine, if we took nature as our guide, we

should look upon a colt, until it was nearly five years old, as a mere teething infant ; from five to seven, as a stripling horse ; and at eight, as a mature horse, but certainly not an old horse.

This view of the matter differs so essentially from the commonly received opinion, that I feel it necessary to guard myself against the imputation of having propounded some new doctrine, by quoting two short passages somewhat in point from Sir William Hope's translation in 1717 of *Le Sieur de Solleysell's* book, written two hundred years ago. He says in reference to the taste of the French in his day for six-year old horses, "Although in France their being
"young maketh a part of their value and price,
"yet when they are above eight, they are in their
"full strength and beauty, and fit for any service,
"but seldom before they arrive at that age ; so that
"it is at that age, in which horses begin to be service-
"able and good (provided they have not been over-
"rid and spoilt in their youth) that the French

“reject, and will have none of them.” Again in another place he says, “can people be guilty of a “greater folly, than never to desire horses, but “when they are worth nothing, and to put them “off, when they are beginning to prove good and “serviceable.”

The truth is, that the objection entertained against eight year old horses will have some show of reason in it, if the barbarous custom is to be continued, of requiring colts, while they are still infants, to perform work, which it is far beyond the strength of their immatured bones and muscles to accomplish without permanent damage, and which must of necessity detract from their power of endurance, when they become horses ; thousands of them are virtually more aged and decrepit at five or six years old from too early and undue work, than they would have been at ten, or twelve, or even twenty, if they had only been properly treated during their babyhood.

ON THE GROWTH, PROGRESS, AND CHANGES
OF THE TEETH.

I will now proceed to describe the growth, progress, and changes of the teeth; commencing with the foal at its birth, and tracing them step by step, until the animal shall have attained its fifth year; when all the milk teeth will have been changed, and the mouth supplied with its full complement of permanent teeth.

The foal at its birth has usually three back teeth or grinders on each side of both the jaws just peeping through the gum, then in about a fortnight the two central nippers of the upper jaw begin to show through, and are soon followed by those of the lower jaw, and after an interval of about a month from this time the two lateral nippers of each jaw make their appearance in a similar manner; but the corner nippers are not cut, until the foal is nine months old. Towards


the end of the first year of the foal's existence four permanent grinders come through the gum, one on each side of both the jaws, immediately behind the last of the milk grinders.

AT ONE YEAR OLD there are 24 milk teeth fully up, and 4 permanent grinders just appearing in the mouth; making together 28 teeth.

Then in about six months more, that is to say, when the animal is about eighteen months old, four other permanent grinders make their appearance, one on each side of both jaws, close behind the four permanent grinders, already noticed; and this is the only important change, that takes place in the teeth between the end of the first, and the completion of the second year, excepting the natural wear of the milk teeth.

AT TWO YEARS OLD therefore the mouth contains 24 milk teeth, and 8 permanent teeth, viz., 12 milk nippers, and 12 milk grinders, together with 8 permanent grinders; making in all 32 teeth.

In about six months after the completion of the second year the two *upper* central nippers will be found on examination to be loose, and soon afterwards one of them will disappear from the mouth, and expose the sharp edge of the new permanent tooth coming through the gum : in the course of a week or two more the other *upper* central nipper will be changed in like manner, but the lower central nippers are generally retained a month or six weeks longer, before they are shed ; and when the four central milk nippers have given place to four permanent nippers, a similar process commences in the two foremost milk grinders on each side of both the jaws, those of the upper jaw being shed about a fortnight earlier, than the corresponding ones of the lower jaw, and at this time, that is at about two years and nine months old, what are called the wolf's teeth, which however scarcely deserve the name of teeth, as they never assist in mastication,



disappear from the mouth, and are not replaced. The new permanent nippers will have grown considerably during the next three months, and the two pairs will fairly meet.

AT THREE YEARS OLD the mouth will contain 12 milk teeth, and 20 permanent teeth; making together 32 teeth. The unchanged milk teeth will be the 4 lateral, and 4 corner nippers, and the third grinder on each side of both the jaws.

When the colt is "three off," that is about three years and a few months old, one of the lateral milk nippers of the lower jaw usually disappears from the mouth, exposing the edge of a permanent tooth beneath, and in a short time it is followed by the other lateral milk nipper of the same jaw, and this again is followed by the change of a corresponding tooth in the upper jaw, to be followed in its turn by the other lateral nipper of the upper jaw; when these four lateral

milk nippers have been shed, and permanent teeth have begun to appear in their places, that is, when the colt is about three years and a half old, the third and only remaining milk grinder on each side of both jaws is changed, and the furthestmost or sixth permanent grinder in each row makes its appearance through the gum, and completes the set of twelve permanent grinders on each side of the mouth; and by the time the colt has attained its fourth year, those recently cut permanent teeth will have grown well up; and will meet their corresponding teeth of the opposite jaw.

AT FOUR YEARS OLD the mouth will therefore present 4 milk nippers, 8 permanent nippers, and 24 permanent grinders; making together 36 teeth.

The tusches of the under jaw are often up at this time, but the period of their appearance is very variable; they are sometimes present at three years old, and I once saw them fairly

through the gum in the mouth of an undoubted two year-old.

At four years and three months old one of the upper corner nippers will generally be found to show some slight indication of an approaching change, and in a month or so more it will probably disappear from the mouth, and expose the edge of the permanent tooth making its way through the gum, then after some further delay the other upper corner nipper will disappear in like manner, but the colt is generally four years and a half old, before the lower edge of these two teeth are much below the gum; the corner teeth of the lower jaw however are usually retained in the mouth a month or six weeks longer, than those of the upper jaw, before they are shed; so that the new corner teeth of the upper jaw will have grown considerably, before those of the lower jaw are quite free of the gum; and the corner teeth of the two jaws will not meet, until

the animal is fully five years old, at which time the tushes of both jaws are usually present, and complete the full complement of permanent teeth.

AT FIVE YEARS OLD the mouth contains 12 permanent nippers, 24 permanent grinders, and 4 tushes ; making together 40 teeth. And this is the period, at which the colt is most unwisely considered to have merged into a horse, and the filly into a mare. Mares as a rule have no tushes, but it is by no means a rule without an exception.

ON THE AGE, AS SHOWN BY THE TEETH.

Having now traced the foal from its birth by the growth and changes of its teeth through the period of colthood, until its mouth is fully furnished with permanent teeth, my next care shall be to endeavour to turn the signs and changes, that have been noted, to such an account as will enable my

readers to form a tolerably accurate judgement of the age of a horse by an examination of its mouth ; to which end I purpose to confine my observations to that portion of the mouth, which is anterior to the grinders, and contains the nippers and tushes only ; first because they are easily examined, and afford sufficiently accurate information to the purchaser, next because the examination of the grinders is a very troublesome business, requiring the tact and knowledge of a veterinary surgeon to do it effectually, and to discriminate with nicety between the teeth, when they are seen, and lastly because such an examination can only become necessary, to determine some important point in dispute, which had always better be left to the decision of a properly qualified person.

THE YEARLING need not detain me long ; its infantine form, however carefully it may have been nurtured, tells the tale of extreme youth so unmistakably, that no one could well be deceived

into supposing it older, than its 12 little white, glistening milk nippers proclaim it to be.

No material change takes place in these teeth between the ages of one and two beyond the natural wear and tear, inseparable from twelve months' use.

AT TWO YEARS OLD the 12 milk nippers are still retained, but they will have lost much of their baby brightness, and appear coarser, older, and more firm, than they did a year ago; the tables will be all perfectly formed, and the central nippers will have lost their marks.

It may perhaps appear very absurd to those, who have been accustomed to examine horses' mouths, if I here caution the novice against the possible accident of mistaking the mouth of a two year-old for that of a five year-old; such accidents have happened, and may happen again to a beginner, who examines the mouth of a forward, well developed two year-old filly, that

has been well cared for from her birth ; the difference, between milk nippers that have seen two years' service, and permanent teeth, is not so very striking to an untutored eye, as it is to an eye accustomed to such examinations. I once saw a large, overgrown, two year-old Suffolk punch, whose enormous, coarse looking milk teeth might very well have deceived a beginner into supposing, that he was inspecting the mouth of a five year-old horse, for the lower tushes had pierced the gum on each side.

AT THREE YEARS OLD the mouth is so characteristic of the age, that it could hardly be mistaken by any one, who had ever looked into a horse's mouth. The 4 new permanent nippers bear such a marked disproportion to the 8 remaining milk nippers in size, shape, and color, that they could not fail to attract attention ; they are longer, broader, and darker, more square at the base,

and altogether unlike the milk teeth in every respect.

Many colts are brought to market for sale within three or four months of their having attained their third year, and if the permanent teeth are somewhat worn, showing an uneven edge, and one of the lateral milk teeth should happen to be through the gum, the seller will in all probability endeavour to pass them off as "rising four;" but this attempt at fraud must not be permitted to mislead the purchaser. A colt cannot honestly be called "rising four," until the permanent lateral teeth are three parts grown, and nearly meet.

AT FOUR YEARS OLD the mouth presents 2 pairs of central nippers with well formed tables, which evince some wear, 2 pairs of permanent lateral nippers with their front edges meeting, but the teeth not yet perfected at the back, and 2 pairs of milk nippers.

The mouth of a four year-old is as character-

istic and as strongly marked, as that of a three year-old, nevertheless more persons are imposed on by false representations of the age of a colt between this period and five years old, than at any other; I therefore warn the purchaser, to believe nothing that is said to him, which is not confirmed by the animal's teeth.

He will find the edges of the four *central* nippers uneven, and each tooth terminated by a flattish surface, inclined from the front backward, which is called the table, with a narrow, dark, oval hollow, surrounded by a well defined margin, extending lengthwise along the middle. The two pairs of *lateral* nippers on the contrary will have sharp, unworn edges, the back part of the teeth not filled up, and the tables in consequence incomplete, the front portion alone being formed. The two pairs of corner milk nippers will be firm in the jaws, unless they have been forcibly removed, but even that need not mislead, for

there will be no sign of the permanent teeth coming through the gums. Man may extract the corner milk teeth, but he cannot fill up the hinder portion of the *lateral* teeth, nor supply a table to them, neither can he impart a defined margin to the hollows, which constitute their marks.

As soon as the lateral nippers of the two jaws approach each other, that is, before the colt is fairly "four," every conceivable subterfuge is employed to persuade the buyer, that it is older than the teeth indicate it to be; it is called "four off," "rising five," "coming five," or, what appears to carry more weight with some persons, than either of the foregoing phrases, a "Yorkshire five;" but a colt is not "four off," until the lateral nippers have met long enough for their edges to have become somewhat worn, and the permanent corner teeth to have appeared through the gum, nor is it "rising five," or "coming five," until

these teeth are fully three parts grown ; a "Yorkshire five" is simply a barefaced cheat.


If the lower edge of the under jaw be examined, it will be found to retain much of the thick, rounded, colt-like feel, that differs so widely from the sharp, and almost cutting edge, which forms such a distinctive feature in the jaws of older horses.

AT FIVE YEARS OLD all the milk teeth will have been shed and replaced by permanent teeth, and the mouth completely furnished with a full complement of horse teeth including the 4 tushes ; the corner teeth however, although they meet, will be found to be mere shells, hollow behind, and possessing neither tables, nor defined margins to their marks. They are shorter and smaller, than the lateral nippers, and their borders towards the tushes are rounded ; those of the under jaw are less, than the corresponding teeth of the upper jaw ; the gum, from which these teeth appear to

spring, forms a half-circular mark around the base, differing from the mark at the base of the lateral and central nippers, which is somewhat square.

The tushes are usually fairly up in the mouth, and terminated by a point, which is slightly curved inwards; the outer surface is rounded, and the inner portion somewhat concave, with a considerable groove running up each side, imparting a feeling of great sharpness to the finger, when the edges are examined.

I may observe here, that neither the lateral nor corner nippers grow out straight and even from the gum, but that portion of each tooth which is nearest to the permanent tooth last up in the mouth, is first projected from the gum, and these portions of the corresponding teeth of either jaw are the first to meet, and are generally somewhat worn on the edges, before the other end of the edges of the teeth come together. It is necessary to note this carefully, because the



colt is not "four" complete, until the lateral teeth meet along the whole of their edges, nor is the horse fully "five," until the corner teeth have met in like manner. These teeth are not white and shining, as might have been expected, but present on the contrary a dark and dull appearance, being covered by a hard, brown coating, that conceals the enamel; and it sometimes requires two or even three years' wear, to remove this coating particularly from the under teeth; it is often mistaken for tartar, but it is a natural covering.

The teeth at this age are arranged in a semi-circular form, perpendicular to each other in the two jaws, but as the horse advances in age, the semicircle gradually straightens, and the teeth meet each other at an angle, more or less acute, dependent on the number of years the animal may have lived.

Dealers entertain such a partiality for five years old, that their anxiety to anticipate that age

knows no bounds, but as soon as it has arrived, their impatience sobers down wonderfully, and they become quite contented to permit the teeth to tell their own tale about the age; and from this time forth the purchaser may banish all fear of being asked to believe a horse to be older, than it really is. Dealers do not much mind "six," or "six off," but they shrink from "seven;" not because they consider seven too old, for they all know full well, that a sound horse of "seven" or "eight" is worth twice as much to its owner, as it would have been at "four;" but they buy to sell again, and are obliged to trim to the unwise dread their customers entertain of a horse seven or eight years old, and this is the reason, why such a treasure as a good, serviceable eight year-old horse is never to be met with in a dealer's stable.

AT SIX YEARS OLD the corner teeth are more square and look firmer, than they did a year ago

the edges show wear throughout their whole length, the marks continue deep, dark-colored and undefined, the roundness of the posterior borders will have nearly disappeared, the back of the teeth are not yet perfectly filled up, and the tables in consequence remain incomplete. The tushes are still pointed, and sharp on their edges, the marks of the central nippers in some mouths may have disappeared altogether, but where they remain distinct, as they often do, the hollows will be found quite filled up, and the coloring matter confined entirely to the surface; but all this depends so much on the kind of food the horse has eaten, whether it has been hard, or soft, and on other accidents of the stable, that very little reliance can be placed on it as confirmatory of the age.

AT SEVEN YEARS OLD the backs of the corner nippers are filled up, and the tables completed, defining the margin of the marks; the edges show considerable wear, and the junction of the

gum with the necks of the teeth will have lost its half circular form. The teeth are whiter and more shining, than they were a year ago in consequence of the brown coating, which obscured the enamel, having been partially worn off. The tables of the central nippers will have become somewhat angular, and those of the lateral nippers will have commenced the change from their oval form; the marks may have disappeared altogether from the former, and have become narrower, shorter, and fainter in the latter; but the presence or absence of the marks in the central and lateral nippers cannot be taken as a sure indication of the age, for some horses wear them out early, while others retain them for some years longer, dependent very much on the temperament of the animals; whether they merely use their teeth for the purposes of feeding, or employ them against every hard substance, that comes in their way.

The lower corner nippers are frequently set

rather more forward in the mouth, than those of the upper jaw, which prevents the two teeth of either side corresponding exactly, when they meet, and leaves a small, unworn portion of the outer edge of the upper teeth projecting downwards; I believe this appearance, is rarely, if ever observed prior to the seventh year, it is not however always present, but when it is, it may be admitted as evidence, that the animal is not less than seven. The tushes will have lost some of the sharpness of their edges, the points will have become blunter, and the backs rounder than they were, when the horse was younger.

The branches of the lower jaw no longer impart to the finger the round and thick feel of a colt's jaw, incumbered by the rudiments of the uncut permanent teeth, that are contained within the substance of the bone and not yet perfected, but on the contrary they present the thinner and more condensed feel, which characterizes the jaw

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of a horse, that has quite done with the painful and harassing business of teething.

AT EIGHT YEARS OLD the corner nippers are square, firm looking teeth, presenting completely formed and even tables with narrow, dark, well defined marks surrounded by flat, broad margins, and although the hollows may appear to be worn away, they are only filled up by the same brown matter, that formed the coating of the outside of the teeth, and which will now have been entirely worn off, excepting perhaps from the lower corner nippers, where a small portion generally remains, causing those teeth to appear somewhat darker, than the others. The gums are paler in color, less full, and rounded, and clip the necks of the corner nippers in the form of a square, instead of a half circle as they did, when the teeth were younger.

The marks of the central nippers will most probably have disappeared altogether, and those of

the lateral nippers become very narrow and faint, the tables of the former will have assumed an irregular, triangular form, with an angle projecting inwards towards the mouth, and those of the latter will have taken on much of the same form, but less in degree. The tushes at this age are usually round, and the points quite blunted and gone. The space between the branches of the lower jaw will be wide and free, the margin of the bone comparatively sharp, and the whole cheek flat and firm.

It is sometimes said, that no certain and reliable information is to be obtained from the teeth after the sixth year, but I believe, that they may be safely trusted up to the eighth year; and I am not quite sure, that a tolerably safe guess may not be ventured upon for two or three years longer, without however the smallest pretension to certainty: the hollows of the marks in the nippers of the upper jaw are retained about three

years longer, than those of the corresponding teeth of the lower jaw, and, if the corner nippers of the upper jaw should present such an appearance, as would be called "Six" in the lower jaw, I think it would not be very rash to hazard a qualified opinion, that the horse was not more, than ten or eleven years old, even though the tables of the nippers of the lower jaw should have become shorter, broader, and angular, and their marks have disappeared altogether; but I would not counsel any one to risk even a conjecture after this period, as to the probable age of a horse from an examination of its mouth alone.

After eight years old the form and general aspect of the teeth and their tables undergo a marked change; as time rolls on, the teeth become gradually longer and narrower, and take on a dirty, yellow appearance; and in proportion to the number of years the horse may have lived, so they incline outwards from the gums, until the

edges of the upper nippers meet those of the lower nippers at a very acute angle, and indeed at a very advanced age overlap them altogether. The tables in like manner are changed by a slow and gradual process from the long, narrow, oval form, which is so conspicuous in youth, to an irregular, angular, and at last almost square form, having the longer diameter from front to back instead of from side to side, as was formerly the case. The arrangement of the teeth in the jaws gradually loses its curved form, and approaches nearer to a straight line, and the bases of the teeth and tushes become incrustated by tartar. The lower jaw diminishes in depth and thickness in proportion to the increase of age, and the channel between the branches becomes freer and more open, and the under edge of the bone thinner and sharper. The gums and lining membrane of the mouth contract, and appear to adhere more closely to the bones, the tongue protrudes through the

spaces on each side of the mouth behind the nippers, and the lips become pendulous.

Some writers have attempted by a very ingenious theory to classify the changes, which take place in the forms of the teeth and their tables, and to fix the exact periods, at which they occur, whereby they imagine, they are enabled to determine the age of a horse by its teeth to the utmost limit of equine existence; but the combined observation and extensive experience of subsequent writers have entirely failed to reconcile the facts with this theory, and I believe my reader would do well, when he finds that age has removed the usual land marks from the horse's mouth, not to involve himself deeper in the mystery, but, having carefully weighed all the circumstances of the case, to rest satisfied with the conclusion, that the poor beast must be either old, older, or very old.

I will now venture to offer a little advice to

those beginners, who are really in earnest, and seriously desire to obtain a practical knowledge of the subject; and the first thing, I would impress on them, is never to be in a hurry, nor to jump to a conclusion from a careless and cursory glance at the teeth, otherwise they may fall into great mistakes, but always to remember, that there are many circumstances and appearances to be carefully noted and combined, before anything approaching to a safe conclusion can be arrived at, and that this knowledge can only be acquired by frequent examinations of the teeth; to which end I would counsel the learner, to avail himself of every opportunity, that may present itself of looking into a horse's mouth; not however with a vague, unmeaning gaze, but with a fixed and steady purpose of accustoming his eye to take in, and appreciate everything pertaining to some one part at a time; whether it be the general aspect of the teeth, or the form of the tables,

or the peculiarities of the marks, or anything else, still let him confine his attention during a series of inspections of different mouths to that one part, whatever it may be, until he has compared, and firmly fixed in his mind every variation of size, form, and color he may have observed; he should then in like manner study all the other points in succession, but never attempt to master two at a time, for if he does, he will soon become puzzled. This method of gaining the desired information may appear to be tedious, but in the end it will prove itself to be the shortest, safest, and surest course to pursue; for in these exercises the eye becomes so drilled to observing minute differences in each point, that after a short time it will take immediate cognizance of the slightest variation from the usual appearances of the parts, which may happen to be under inspection. The theory can be very well learned from books, but repeated and careful observation of the teeth in

the horse's mouth, will alone enable the student to apply the theory to any good or useful purpose.

SHORT RULES FOR SHORT MEMORIES.

I will now endeavour to condense some of the broad, leading features of the subject into a few short rules for the guidance of those persons, who are not disposed to take much trouble for themselves, but who nevertheless desire to know something about the matter, and I am not without hope, that these *short* rules may in some degree assist *short* memories.

AT TWO YEARS OLD the mouth presents a complete set of full grown milk nippers.

AT "TWO OFF" the central nippers are shed, and the permanent nippers are through the gums; but the colt continues to be only "two off," until after the permanent teeth are more than half grown.

AT "RISING THREE" they are two thirds grown,
and the anterior portions nearly meet.

AT THREE the whole length of the edges of
the central nippers of the two jaws meet,
and press each other.

AT "THREE OFF" the lateral milk teeth are shed,
and the permanent teeth are half grown.

AT "RISING FOUR" the permanent teeth are two
thirds grown.

AT FOUR the lateral teeth are fully grown, and
the edges meet throughout their whole
length in the two jaws.

AT "FOUR OFF" the corner milk nippers are shed,
and the permanent teeth are fairly through
the gums; the colt however continues to
be only "four off," until these new teeth
are more than half grown.

NOTE. It is important at this particular age to
remember, that a mouth, which contains
neither *milk* corner nippers, nor *per-*

manent corner nippers quite clear of the gums, is not "four off"; as this circumstance may make several months difference against the purchaser, in the seller's estimate of the age of his colt.

AT "RISING FIVE" the permanent corner nippers are two-thirds grown, and nearly approach each other.

AT FIVE the nippers of each jaw are arranged in the form of a semicircle, and are perpendicular to each other; the edges of the corner nippers fairly meet, but the teeth are as yet mere hollow shells; they look young, and the gum forms a semicircular mark around the neck of those of the lower jaw.

The tushes are well up, and pointed, their edges are sharp, and grooved behind, the fronts are round, and the backs somewhat concave.

AT "FIVE OFF" the corner teeth are less sharp on their edges, showing that they have been employed in feeding.

AT "RISING SIX" the edges are more worn, the teeth look strong, and are less hollow.

AT SIX the corner teeth are stronger, and firmer, their front edges are broader, and are uneven from wear, but the back parts are not yet filled up, the hollows are still deep, and the tables are undefined behind.

BETWEEN SIX AND SEVEN the backs of the corner teeth become gradually filled up, the marks may have disappeared from the central nippers, and those of the lateral teeth may have become narrower, and fainter; but these signs are so uncertain, that after "five" the corner teeth, and the tushes become the only safe guides.

AT SEVEN the tables of the corner teeth are fully formed, their marks are hollow and dis-

tinctly defined, the points of the tushes are rounded, the teeth are whiter, than they were a year ago, and the tables of the central nippers are shorter, broader, and more angular, than those of the other teeth.

AT EIGHT the corner teeth are broader, firmer, and more square; and the gum forms a square junction with the necks of the lower teeth; the tables are flat and even, the marks are smaller, but still distinct, and the hollows are nearly filled up; the marks of the central nippers will most probably have disappeared altogether, and those of the lateral teeth will have become faint and indistinct, and the tables of both will have changed their form from oval, to short and angular. The lower tushes will have become blunt on the top, and round on the front, back, and sides.

THE CONCLUSION.

At this age the horse is perfectly matured and in the prime of life, and, if he has been fairly treated in his youth, will be capable of performing a larger amount of severe work without damage, than at any other period; if on the contrary, as too often happens, his vigor has been anticipated, and his energy exhausted, before his frame was fitted to meet the demands, thus forced upon it, we can scarcely feel surprise, if we sometimes find, that his powers have rather decreased, than increased with his years.

It is the unwise and cruel policy of Man, and not the decree of Nature, that declares a noble and generous animal to be OLD, before it has fairly attained its MATURITY.



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